

Year 7 science

Is clear water safe to drink?

Australian Curriculum links: Year 7 Science

Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques (ACSSU113)

In this activity, students learn that, just because water is clear, it may not be safe to drink.

Equipment

For each group

- one clear plastic cup with water
- [When is water safe to drink?](#) [5:23] video written by Mia Nacamulli for TED-Ed

Activity steps

1. Divide students into groups. Provide each group with a cup of clear water – it is not to be drunk. Don't provide any other information about where the water came from and ask each group to predict if the water is safe to drink. They need to decide on their claim (the water is safe to drink or not to drink) and then provide reasons to justify their position. Groups report their ideas to the class.
2. Discuss the idea that 'invisible' bacteria, viruses and other microbes could be in the water and that some of these microbes can cause disease. Once water is treated, it is disinfected before it is distributed to homes.

Discuss how waterborne diseases are a major health issue globally, particularly for children in developing areas. [When is water safe to drink?](#) is a TED-Ed animation that discusses water contaminants and treatment options and the importance of providing safe drinking water and sanitation technologies in developing countries.

3. Explain that drinking water in Australia has been treated to the high standards set by the Australian Drinking Water Guidelines. Town water supplies in Queensland are strictly regulated by the Queensland Government to ensure that reticulated water is safe to drink. Students could compile a list of questions about their drinking water supply to ask your local water service provider or research on their website. For instance, is our tap water safe to drink if it is cloudy or brownish?

Optional: To further explore the importance of providing safe drinking water and sanitation technologies in developing countries, view [Water changes everything](#) [3:23]. This powerful animation explains how the lack of accessible safe drinking water is

¹ © Australian Curriculum, Assessment and Reporting Authority (ACARA) 2010 to present, unless otherwise indicated. This material was downloaded from the Australian Curriculum website (www.australiancurriculum.edu.au) (Website) (accessed [insert date]) and [was][was not] modified. The material is licensed under CC BY 4.0 (<https://creativecommons.org/licenses/by/4.0>). Version updates are tracked on the 'Curriculum version history' page (www.australiancurriculum.edu.au/Home/CurriculumHistory) of the Australian Curriculum website.

ACARA does not endorse any product that uses the Australian Curriculum or make any representations as to the quality of such products. Any product that uses material published on this website should not be taken to be affiliated with ACARA or have the sponsorship or approval of ACARA. It is up to each person to make their own assessment of the product, taking into account matters including, but not limited to, the version number and the degree to which the materials align with the content descriptions and achievement standards (where relevant). Where there is a claim of alignment, it is important to check that the materials align with the content descriptions and achievement standards (endorsed by all education Ministers), not the elaborations (examples provided by ACARA)





affecting over a billion people globally and presents some innovative and traditional solutions to solve the problem.